Learning French Pronunciation: Audiocassettes or Multimedia?

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ABSTRACT
Phonetics, intonation, and pronunciation are integral parts of language learning. However, they are not often an actual part of the content of language classes. One reason may be that teachers are not necessarily trained in phonetics and therefore are reluctant to make this component a part of their teaching. Another reason may be that the proper tools are not being used or that the proper tools are not being used appropriately in order to assist teachers and students in integrating phonetics into the curriculum. This article describes a two phase experiment that was conducted at the University of Ottawa using audiocassettes and multimedia while teaching French, specifically French phonetics, intonation, and pronunciation, to a group of low-intermediate level language students. The present study addresses three questions: (a) Are the receptive and productive skills of intermediate-level learners of French as a second language influenced by the explicit teaching of phonetic and prosodic elements? (b) If so, which delivery mode is the most effective to teach these elements: audio cassettes or multimedia? and (c) What are the students’ preferences with regards to these two delivery modes?

KEYWORDS
Multimedia, Pronunciation, Phonetics Learning, Authoring Software

INTRODUCTION
Computer-based tools for pronunciation were first developed as part of speech improvement therapy. These original programs were very expensive and were not designed for teaching French (Knoerr, 2000). Consequently, they could not be used by anyone—student or teacher—who was not trained in phonetics. Furthermore, the technology itself was fairly limited. But in the past 10 years, fast CPUs, high capacity hard disks, audio hardware, and fast networks have become affordable and are now readily available in many language laboratories. Language teachers can enlist the help of pronunciation teaching software or develop phonetics lessons for their students using multimedia authoring programs with speech processing technology or a combination of multimedia tools.
MULTIMEDIA PRONUNCIATION, PHONETICS LEARNING, AND AUTHORING SOFTWARE

The Max Author program (2001), a general authoring program for PCs from the University of Arizona, can be utilized for pronunciation activities (see cali.arizona.edu/docs/wmaxa). By first playing a native speaker’s voice and then prompting students to repeat the segment they heard, the program presents activities that can be designed to help students improve their pronunciation. The native speaker’s and the student’s voice can be played back-to-back so that students can immediately compare them.

The Winpitch LTL program was created by Philippe Martin of the University of Toronto (see www.winpitch.com/index.htm). This Windows-based program is a real time speech analyzer, visualizer, and synthesizer. It was designed specifically for teaching second language pronunciation and oral expression. Students can visualize exactly what they have pronounced through a sonogram and intonation indicator. Also, the teacher can redesign a student’s incorrect prosodic pattern to synthesize correct prosodic pattern in the student’s own voice for direct feedback. The program’s feedback capabilities substantially exceed those of its most widely used predecessor, Kay Elemetrics’ VisiPitch, which allowed learners to record utterances, play them back, and see a visual display of their intonation curve but did not allow for explanations or monitoring.

The Phonagogue program (Denis & Soneson, 2001) is a template-based authoring program for the Macintosh completely devoted to phonetics. It generates phonetics activities with the model pronunciation of words, phrases, and sentences using either audio or video files. The program supports the construction of a lexicon of phonemes with video examples, profile diagrams illustrating articulation points, as well as phonetic transcriptions using the International Phonetic Alphabet. Students can listen as often as they like and record their own voices.

Ready-to-use pronunciation and language learning packages like Rhythm of French, Ça sonne français, and Tell Me More are also available. No development skills are necessary to use these programs, but they do not allow for teacher input or changes. The Rhythm of French package was developed by Bernard Rochet at the University of Alberta (see www.amug.org/~a108). It is a complete pronunciation course designed for native speakers of English. Its goal is to create good pronunciation habits and to help learners recognize and correct their own oral production. All pronunciation exercises are accompanied by detailed linguistic explanations. (Renie, 1998; Monville-Burston, 2001) The Ça sonne français package (developed by D. Jamieson, see www.hull.ac.uk/cti/tell; Spodark, 2002) is an introduction to French phonetics for advanced learners. It offers the opportunity to hear and record characteristic features of the language, whether individual sounds or intonation patterns of whole sentences. It also introduces students to phonetic transcription. The Tell Me More package, developed by Auralog (see www.auralog.com; Reeser, 2002), is the only program to offer natural language processing and speech recognition. It emphasizes oral skills and pronunciation.
at the beginner/intermediate level for languages such as French, Spanish, and English. It has an important pronunciation section which includes 3D phonetic animations and activities with speech recognition.

**Previous Studies**

Although an abundance of multimedia programs and packages is available, studies measuring the actual impact of these software tools in classrooms are very limited, and their reported results are often contradictory. Furthermore, while most of the existing studies deal with the learning of English or Japanese, very few focus on French as a second language. Some studies report positive effects of the use of visual displays of intonation for language learners (Anderson-Hsieh, 1994; de Bot & Mailfert, 1982; de Bot, 1983; Hengestenberg, 1980; James, 1976, 1977, 1979; Knoerr, 2000; Lane & Buiten, 1969; Léon & Martin, 1972; Pennington & Esling, 1996), but others found no improvement in the students’ intonation patterns (Stenson, Downing, Smith, & Smith, 1992; Vardanian, 1964; Wichern & Boves, 1980).

With respect to pronunciation training, Yamada, Tohkura, Bradlow, and Pisoni (1996) found that training in speech perception enabled learners to modify and improve their speech production. Native Japanese students trained to identify the minimal pair /r/-/l/ made significant improvements between the pre- and posttests. Similarly, Murawaka and Lamberger (1996) taught Japanese learners of English how to pronounce an American English [r] using electronic visual feedback. After 13 weeks, many students were better able to pronounce this specific sound on the posttest.

Ehsani and Knodt (1998) described a system at the University of Tokyo for teaching the pronunciation of Japanese long vowels, the mora nasal, and mora obstruents. This system prompts students to pronounce minimal pairs (e.g., long and short vowels) and returns immediate feedback on segment duration. Learners quickly mastered the relevant duration cues, and the time spent on learning these pronunciation skills was well within the constraints of Japanese L2 curricula (Kawai & Hirose, 1997). However, the study provided no data on long-term effects of using the system.

Other types of visual pronunciation feedback include the graphical display of a native speaker’s face, the vocal tract, spectrum information, and speech waveforms. Experiments have shown that a visual display of the speaker improves not only word identification accuracy (Bernstein & Christian, 1996) but also speech rhythm and timing (Markham & Nagano-Madesen, 1996). Yet others have experimented with using a real-time spectrogram or waveform display of speech to provide pronunciation feedback. Molholt (1990) and Manuel (1990) reported anecdotal success in using such displays, along with guidance on how to interpret them, to improve the pronunciation of suprasegmental features in L2 learners of English but provided no experimental evidence for the effectiveness of this type of feedback.
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In a study done by Bratu (2000) on English learners of French over a 2-month period, students were taught the /y/ - /u/ opposition using three approaches: (a) a traditional approach to phonetic teaching (audiotapes and classroom instruction), (b) a computer-based approach using *The Rhythm of French*, and (c) a combined approach using the computer software complemented with the feedback of the professor. A control group receiving no phonetic teaching was used to establish the impact of each of these three delivery modes. The study revealed that students receiving phonetic teaching improved their production of the two target sounds. Nevertheless, there was no significant difference in the quantitative analysis of the perception of the sounds among the four groups. The qualitative analysis showed that the students who improved the most were the students using the computer program while also receiving feedback from their professor.

**THE 2000 PRELIMINARY STUDY**

In spring 2000, we conducted a preliminary study that involved surveying students’ reactions to a limited number of multimedia French phonetics activities. This study was conducted in an elementary level French course, 4 hours per week for 13 weeks, at the University of Ottawa. The class consisted of 16 students, 15 women and 1 man, mostly in their 20s and all computer literate.

During the first 6 weeks of the course, the students worked in the language laboratory using audiocassettes and a paper workbook. For the last six weeks of the course, the students worked on computer-based phonetic activities. The laboratory period lasted an hour, half of which was devoted to listening comprehension activities and the other half to phonetics activities with either audiocassettes or multimedia. A test covering three sounds (/â/, /œ/, and /j/) taken from the multimedia unit, was administered at the beginning and at the end of the experiment. The students’ scores on the pre- and posttest were not significantly different. Neither was there a correlation between the results on these tests and the grades of the students on their final exam.

Four factors may have contributed to these results: (a) the experiment lasted only one month, (b) only three sounds were tested, (c) the number of participants was quite small (n = 16), and (d) finally, the multimedia computer program that we used was not completely finished (e.g., feedback was very limited, not all the links with review materials were functional, and there was no explanatory advice offered to the students doing the exercises).

The students’ reactions to the new media and to the two teaching approaches were surveyed using a questionnaire developed to solicit students’ comments on the two formats used during the term. The comments were very positive, indicating that students were satisfied with both approaches but showing a marked preference for the computer approach (see Tables 1-3).
Table 1
How was the program to operate?

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very difficult</td>
<td>0</td>
</tr>
<tr>
<td>Difficult</td>
<td>1</td>
</tr>
<tr>
<td>Easy</td>
<td>14</td>
</tr>
<tr>
<td>Very easy</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 2
Which version did you prefer?

<table>
<thead>
<tr>
<th>Response</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper with audiocassette</td>
<td>1</td>
</tr>
<tr>
<td>Computerized multimedia</td>
<td>15</td>
</tr>
</tbody>
</table>

Table 3
Levels of Satisfaction

<table>
<thead>
<tr>
<th></th>
<th>How satisfied were working with paper and audiocassettes?</th>
<th>How satisfied were working with the computerized multimedia version?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very dissatisfied</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Dissatisfied</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Satisfied</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>Very satisfied</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Mean</td>
<td>2.7</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Because the results of the first study may have been influenced by the four factors outlined earlier, we decided to do a second study designed to take these factors into account. Towards this end, we improved the phonetics module, ran a longer experiment over an entire term with three groups of students, evaluated more phonetics components, and modified the phonetics tests.

**THE 2001 EXPERIMENT**

**Procedure**

Finding groups and professors suitable and willing to participate in the second study was a challenge. In January 2001, the University of Ottawa offered three intermediate French classes during the day and one in the evening. The professor teaching the evening class was not approached because evening students may have had different backgrounds and motivations than students taking the classes.
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during the day. Both professors teaching the daytime courses agreed to participate in the experiment; one professor taught the control group while the other taught the two experimental groups. The professor for the control group did not change her teaching content and simply had to give up two of her classes for the pre- and posttests.

A two-part pretest was administered at the end of the second week of class. The first part was the Placement Test of the Second Language Institute at the university which measures listening, reading, grammar, and vocabulary skills. This test has been validated and is routinely used to place students in our French program. The second part, which was developed especially for the experiment, focused solely on phonetics and consisted of two sections. The first section had three subtests: the first subtest measured the perception of /ø/, the second subtest evaluated the perception of /ɔ/, and the third subtest focused on intonation patterns. The second section of the test focused on production in both a fully controlled and a semi-open setting. Students read sentences containing the sound /ɑ/ and /R/, along with a specific intonation pattern. Next they were asked to talk about their family for one minute.

The experiment lasted 10 weeks. The discrimination activities were done exclusively at home while speaking exercises were done entirely in class (held in the language laboratory). The professor listened to the students and corrected them as needed. The posttest took place in week 12 and consisted of the same components as in the pretest. At that time, students’ satisfaction with the phonetic component of the course was also surveyed.

Means and standard deviations were calculated for all measures on both pre- and posttests. An ANOVA was performed in order to detect group differences on the initial pretests. A multivariate analysis of covariance was performed on the posttest, using the pretest scores as the covariate, in order to ascertain group differences. Post hoc t-tests were used to examine the data for any significant changes in scores from the pretest to posttest for all measures within each group. Correlations were done to see whether there was any relationship between performance on the phonetic tests and other measures of language proficiency, the placement test scores, and the final exam grades.

The Instrument

The Ficelle program (see aix1.uottawa.ca/~weinberg/ficelle.html) was chosen as the authoring tool to develop the multimedia module. The program allows language teachers to develop fill-in-the-blank and multiple-choice activities easily and quickly for reading, listening, and grammar practice complete with automated generic feedback or customized context-sensitive feedback.

The phonetic multimedia module developed for the project described here contained the following features:

1. interactive sound icons playing each phoneme being studied,
2. recording facility allowing students to record and play back their own voices and compare their voice with that of a model,
3. sound files that could be randomly accessed,
4. review files giving relevant advice about how to articulate the sounds,
5. video files showing the movements of the lips,
6. still and animated diagrams showing the position of the tongue,
7. video animations showing where the different sounds are pronounced,
8. feedback on some anticipated mistakes, and
9. immediate answers.

These features were chosen because research shows they are helpful to learners. Bagui (1998) reported that active interaction, animations, and sound contribute to increasing students’ motivation. Cazade (1999) noted that video clips and animated clips can benefit students by clearly showing the different positions of the tongue and lips, as well as the air flow, in a way that X-ray movies cannot. We chose, however, not to include waveforms, even though most commercially available programs offer them, because there is simply no scientific evidence attesting to their usefulness; it seems to be assumed that students will improve their performance because they will listen over and over again to the model even if they fail to match it. As Cazade (1999) pointed out, waveforms vary greatly in quality depending on the type and quality of the microphone and the soundcard being used; similarly, the same utterance said several times by the same native speaker often looks quite different from one display to the next. Cazade concluded that unless students are trained in reading and interpreting these visual displays and receive basic training in phonetics as well, they cannot benefit from their use.

The multimedia module was based on the 7-unit phonetics component of the A bon port workbook for intermediate learners of French, especially Units 3 and 4. The sounds were presented based on their frequency in the spoken language (see Table 4).

Table 4
Content of Multimedia Module Taken from A bon port

<table>
<thead>
<tr>
<th>Unit</th>
<th>Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>/ø/ /œ/ /ɛ/ /ʃ/ /ʒ/</td>
</tr>
<tr>
<td></td>
<td>Syntactic intonation</td>
</tr>
<tr>
<td>4</td>
<td>/ɑ/</td>
</tr>
<tr>
<td></td>
<td>/R/ before a consonant</td>
</tr>
<tr>
<td></td>
<td>/R/ between two vowels</td>
</tr>
<tr>
<td></td>
<td>/R/ at the beginning of a group</td>
</tr>
<tr>
<td></td>
<td>/R/ at the end of a group</td>
</tr>
<tr>
<td></td>
<td>/s/ /ʃ/</td>
</tr>
<tr>
<td></td>
<td>Expressive intonation</td>
</tr>
</tbody>
</table>
The module, designed to function as a tutor, encouraged the students to proceed at their own pace and to produce the sounds repetitively. The work focused mainly on the perception, discrimination, and pronunciation of the various phonemes. Speech recognition was not available in the program. The students worked on four different sections: (a) differentiating between phonemes; (b) receiving advice to improve their pronunciation; (c) producing phonemes in isolated contexts, within a word, within a phrase or sentence; and (d) learning the customary spellings of the sounds.

In the first section, students worked on phoneme identification and recognition in a series of exercises in which they were directed to identify the number of times they heard the target sound in a phrase or in which word (in a pair of words) or in which syllable (of a word or phrase) they heard the sound.

The second section advised students on how to properly articulate the phoneme under study. This section illustrated the correct pronunciation of French sounds using video segments and model lips, sometimes with an animation showing the movement of the tongue. The animations and video segments were created using an inexpensive web camera and a shareware version of the Videoframer video editing program. The *CorelDRAW* program, version 8, was used to create the vector drawings of the mouth (see Figures 1 and 2).

Figure 1
Articulatory Advice
The third section had students practice the pronunciation of a sound from a .wav file. The scripts were not included at this point in order not to distract students from the main task—listening. However, students had access to scripts on a separate screen if they found they could not complete the exercise without them. Utterances were presented from shortest to longest in expressions ranging from words to phrases and finally to long sentences. Students recorded and played back their voice to compare it to that of a native speaker. During this in-lab activity, the professor was available at all times to work with students directly and provide feedback and explanations as needed.

The last section was devoted to sound-spelling correspondences through two different types of activities. The first type focused on teaching how to spell a specific sound, and the second type practiced the different spellings for the same sound in the context of a dictation. Students had access to online explanations and glossaries, as well as customized feedback for some anticipated mistakes.

**Participants**

A total of 61 students in three sections of the intermediate level course participated in the experiment. These students had either previously taken the prerequisite course or had been placed in the course following their results in the
Second Language Institute Placement Test. The students picked their sections based on their own schedules and timetables. Each section was randomly assigned a delivery mode. The distribution of students in each section was as follows:

1. teaching phonetics with audiocassettes (class MA): 16 students—12 females and 4 males,
2. teaching phonetics with multimedia (class MB): 25 students—17 females and 8 males, and
3. no explicit teaching of phonetics (class NA): 20 students—16 females and 4 males.

The two experimental groups used chapters 3 and 4 from the *A bon port* textbook. The professor of the control group decided not to use a textbook. The first group, class MA, learned phonetic and prosodic elements using a traditional audiocassette module that comes as a standard component of the textbook; the second group, class MB, worked with the multimedia version of that same module; and the last group, class NA, received no explicit instruction in phonetics and pronunciation. That is, the teacher of this last class did not reserve a special time for that particular component of the language but may have given advice, feedback, or correction on a case-by-case basis. Audiocassettes or CD-ROMs were given free of charge to the students in groups MA and MB to do their homework. These students also received a worksheet for the term outlining their homework for the phonetics component. The phonetics program was installed and readily available at the different resource centers on campus so that the two students who did not have a computer at home could prepare their homework and review the material they had done in the lab.

**RESULTS**

The means and standard deviations of each of the three groups on the pretest measures (placement test and phonetics [perception] test) are presented in Tables 5 and 6. ANOVA indicated that there were no significant differences in mean scores for all measures among the three groups.

Table 5
Pretest Results: Placement Test

<table>
<thead>
<tr>
<th>Test Section</th>
<th>Class MA (audiocassette) (n = 16)</th>
<th>Class MB (multimedia) (n = 25)</th>
<th>Class NA (control) (n = 20)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Listening</td>
<td>15.4</td>
<td>2.9</td>
<td>15.5</td>
</tr>
<tr>
<td>Reading</td>
<td>4.1</td>
<td>1.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Cloze</td>
<td>13.3</td>
<td>5.9</td>
<td>10.1</td>
</tr>
<tr>
<td>Total</td>
<td>32.8</td>
<td>7.4</td>
<td>29.5</td>
</tr>
</tbody>
</table>
The multivariate analysis of covariance was carried out on the posttest scores on measures of phonetic perception and production using the pretest scores as covariates. No significant group differences among the three groups were detected for any of the measures. The results of post hoc $t$-tests comparing pretest and posttest scores within each group are presented in Tables 7 and 8.

For the two experimental groups, there are no significant differences in posttest total scores for the placement test. However, there is a significant difference for the audiocassette class in reading and for the multimedia group in listening and reading. There are significant differences in posttest scores for all components of the placement test in the control group, but it should be noted that only 11 out of 20 students completed the placement test at the end of the program. According to the teacher of the class, these students were likely her most dedicated students.
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Table 8
Comparison of Means for Pre- and Posttest Results: Phonetics Perception Test

<table>
<thead>
<tr>
<th>Subtest</th>
<th>Class MA (audiocassette)</th>
<th>Class MB (multimedia)</th>
<th>Class NA (control)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 9)</td>
<td>(n = 17)</td>
<td>(n = 7)</td>
</tr>
<tr>
<td>Pretest</td>
<td>Posttest</td>
<td>p value</td>
<td>Pretest</td>
</tr>
<tr>
<td>1. /ɔ/</td>
<td>3.3</td>
<td>8.9</td>
<td>.001</td>
</tr>
<tr>
<td>2. /œ/</td>
<td>5.8</td>
<td>5.2</td>
<td>.468</td>
</tr>
<tr>
<td>3. intonation</td>
<td>4.4</td>
<td>10.0</td>
<td>.017</td>
</tr>
<tr>
<td>Total</td>
<td>13.6</td>
<td>24.1</td>
<td>.002</td>
</tr>
</tbody>
</table>

For the phonetics test, both the audiocassette group and the multimedia group had posttest scores that were significantly higher than pretest scores for subtest 1, subtest 3 and the total score. None of the posttest scores were significantly different from the pretest scores for the Control group although again it should be noted that only 7 out of 20 students completed the test.

Pronunciation assessment was done following a structured methodology. All pre- and posttest speech samples were recorded on cassette. All tapes from the pre- and posttests, from classes MA, MB and NA were mixed together for evaluation by a single judge. The intrajudge reliability was verified by two listenings by the same judge. Forty percent of the samples were used to calculate the reliability.

For the controlled production, the students had to complete three subtests focusing on /œ/ , /R/ , and intonation patterns in which they read sentences containing these elements (see Table 9). For this part of the test, the intrajudge reliability was 0.94.

Table 9
Comparison of Means for Pre- and Posttest Results: Controlled Production Test

<table>
<thead>
<tr>
<th>Subtest</th>
<th>Class MA (audiocassette)</th>
<th>Class MB (multimedia)</th>
<th>Class NA (control)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n = 10)</td>
<td>(n = 17)</td>
<td>(n = 7)</td>
</tr>
<tr>
<td>Pretest</td>
<td>Posttest</td>
<td>p value</td>
<td>Pretest</td>
</tr>
<tr>
<td>1. /œ/</td>
<td>9.3</td>
<td>9.2</td>
<td>.830</td>
</tr>
<tr>
<td>2. /R/</td>
<td>10.4</td>
<td>10.7</td>
<td>.690</td>
</tr>
<tr>
<td>3. intonation</td>
<td>6.1</td>
<td>6.0</td>
<td>.860</td>
</tr>
<tr>
<td>Total</td>
<td>25.8</td>
<td>25.9</td>
<td>.930</td>
</tr>
</tbody>
</table>

For the semi-controlled oral production, two evaluations were done. The first one was a specific evaluation based on the number of times three sounds (/R/ , /œ/ , /E/) were pronounced and whether they were pronounced correctly or not. The second one was a general evaluation based on a five point grid (see Table 10). The intrajudge reliability for this section was limited (.76), therefore, we could not use the data collected from these audio segments.
Table 10
Five Point Evaluation grid

<table>
<thead>
<tr>
<th>Evaluation result</th>
<th>Success</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The target sound was systematically produced incorrectly.</td>
<td>0%</td>
</tr>
<tr>
<td>2. The target sound was more often produced incorrectly.</td>
<td>5 to 25%</td>
</tr>
<tr>
<td>3. The target sound was approached</td>
<td>30 to 55%</td>
</tr>
<tr>
<td>4. The produced sound was close but not exactly as the target sound.</td>
<td>60 to 75%</td>
</tr>
<tr>
<td>5. The target sound was most often produced correctly.</td>
<td>80 to 95%</td>
</tr>
</tbody>
</table>

As outlined in Table 9, generally speaking, there are no significant pre-/posttest differences for the three groups, but that of subtest 2 /R/ in the Multimedia group approaches significance.

STUDENTS’ REACTIONS

The students from the two experimental groups completed a questionnaire investigating the effectiveness of the phonetics activities and their satisfaction with different aspects of them (see questionnaire in Appendix A). The questionnaire solicited information first about the background of the students and then about the phonetics activities themselves. The section on the phonetics activities consisted of 14 Likert-type questions (4-point scale) which asked about the delivery system, students’ frequency of use of different activities, and finally their impression as to whether the exercises had had any effect on their pronunciation and their general French language ability (see summary of student responses in Appendix B). Of the two open-ended questions in this section, one asked what students liked or disliked about the activities, and the other asked for suggestions to improve the activities. While in general the answers were very similar for both groups, some differences are worth noting for questions 2 and 9.

Question 2. How did you feel working with the phonetics activities?

The mean scores for the two groups were significantly different (2.9 for the audiocassette group vs. 3.3 for the multimedia group), and the distribution of students was quite different revealing that the students in class MB (the multimedia group) were more satisfied with the phonetics activities. In class MA (audiocassette group), only 2 students were very satisfied, as opposed to 14 satisfied and 6 very satisfied in Group MB (see Figure 3).
Question 2: How did you feel working with the phonetics activities?

Figure 3

Question 9. Did you do extra work besides the assigned phonetics homework?

Here again, the mean scores were significantly different for the two groups (1.5 for the audiocassette group vs. 2.0 for the multimedia group). The distribution of students was quite different and showed that the students from the multimedia class were clearly attracted to do extra work above that required for their homework. In class MA (the audiocassette group), 7 students never or almost never did any extra work, 8 students sometimes did extra work, and none often did extra work. In class MB (the multimedia group), 4 students marked never or almost never, 13 marked sometimes, and 3 students marked often (See figure 4).

Figure 4

Question 9: Did you do extra work besides the assigned phonetic homework?
In addition to the 14 Likert-type questions, students were asked two open-ended questions: (a) what they liked and disliked about the activities and (b) what they would suggest in order to improve them. Students in the groups provided numerous comments, and all students gave some comments. Some students in the audiocassette group said that they would like to have heard a brief introduction to the activities in order to identify the part of the tape they were to study. This kind of comment is a common remark from students using audiocassette tapes. The comments from the multimedia group were useful but sometimes contradictory. For example: three students wanted “more exercises,” while one student would have liked to “cut out half of the exercises.” Nevertheless, the students’ comments reflected the well understood advantages of multimedia tools. Some students in the multimedia group indicated that they liked the way in which the program guided them to study and the fact that online resources were available to help them. Three students stated that they liked working at their own pace and receiving feedback. One said, “I enjoyed this lab much better than last year. The computer makes a big difference rather than just using a cassette player.” Another commented, “I liked the way it showed the mouth to pronounce the sounds.” and a third offered, “The computer was more useful than just having the textbook. You have the answers there and you have feedback to help you improve.”

CONCLUSION AND PERSPECTIVE

Comparison of the pre/posttest results in each of the three groups indicated some improvement in their language knowledge, which is to be expected given 13 weeks of French instruction. However, the results also showed that there was no correlation between the explicit teaching of phonetics and general knowledge of the language as measured by the posttest scores (placement test) and by the final grades in the course.

The phonetics results showed that the receptive skills of intermediate-level learners of French as a second language were influenced by the explicit teaching of phonetic and prosodic elements. However, there was no difference related to the delivery mode; both audiocassettes and multimedia were equally effective.

Why was there so little difference between the results of the audiocassette and multimedia groups? It might be hypothesized that the students started with limited language knowledge and any change to this knowledge would have to be an improvement. Their learning process is still in its early phases, and it is difficult to assess significant differences in speaking. Conducting the same experiment in a higher level course may produce different results.

Another reason could be that perhaps many of the students were not highly motivated to consistently do extra work at home. The students were not majoring in French; they were enrolled in communications, law, sociology, etc., and they took French as an optional credit with the common and unfounded misconception that language courses will provide them with easy academic credit. Also, our
Learning French Pronunciation: Audiocassette or Multimedia?

courses may be the only ones that fit in their overcrowded schedule. The lack of motivation in members of this population was also evident in missed classes and lack of preparation for some homework assignments. By midterm, some students told the instructor that they had not yet installed their CD-ROM at home.

The survey revealed that the students were satisfied with the two types of delivery—multimedia and traditional—but that they were slightly more satisfied with the multimedia version. Although the multimedia module was a useful tool popular with students, it had no effect on students’ general progress in French.

Based on observations by colleagues, the last part of the oral production test will be modified in order to make it more reliable. The experiment will be tried once more with students at the same level of proficiency. The question still remains whether phonetic practice might be more effective at a higher level of language proficiency.

REFERENCES


Learning French Pronunciation: Audiocassette or Multimedia?


APPENDIX A

Questionnaire on the Computerized Phonetics Activities

We are investigating the effectiveness of phonetics activities. We would be grateful if you would take a few minutes to complete the following questionnaire about your experience with the computerized phonetics activities. This is not a question of content, that is, whether or not you like the activity. Thank you for your cooperation. Hélène Knoerr and Alyssë Weinberg

I. Background Information

Identification Number ________________________

Class: __________ Section: __________ Age: __________ Sex: M / F
How many French courses have you taken prior to this class? ___________

When was your last French course? _______________________

Where did you study French?
At the university (   ) How many years ____________
In high school (   ) How many years ____________
French immersion (   ) How many years ____________
Core French (   ) How many years ____________
Other ________________________________________________

Do you have access to a Windows 95/98/NT computer?  Yes ____ No _____

Are you comfortable using computers?  Yes _____  No _____

Does the computer laboratory suit your learning style?  Yes______No _____

  Explain  __________________________________________________
  __________________________________________________
  __________________________________________________

II.  Phonetics Activities

1.  How was the program to operate?
   1. very difficult  2. difficult  3. easy  4. very easy

2.  How did you feel working with the computerized multimedia version?
   1. very dissatisfied  2. dissatisfied  3. satisfied  4. very satisfied

3.  How would you rate the clarity of the sound files you listened to?
   1. very poor (barely or not understandable)
   2. poor (sometimes difficult to understand)
   3. adequate (telephone quality)
   4. very clear

4.  What do you think of the answers provided (automated feedback)?
   1. not useful  2. somewhat useful  3. useful  4. very useful

5.  What do you think of the user interface (computer)?
   1. difficult and awkward to use  2. somewhat difficult  3. easy  4. very easy and intuitive to use
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6. What do you think of the reviews provided on the computerized activities?
   1. not useful  2. somewhat useful  3. useful  4. very useful

7. What do you think of the access to the exercises (locating specific exercises on the computer)?
   1. difficult and awkward to use  2. somewhat difficult  3. easy  4. very easy and intuitive to use

8. Did you complete the assigned phonetics homework?
   1. never or almost never  2. sometimes  3. often  4. always or almost always

9. Did you do extra work besides the assigned phonetics homework?
   1. never or almost never  2. sometimes  3. often  4. always or almost always

10. How many times did you usually do each exercise?
    1. once  2. twice  3. three times  4. four times or more

11. Did you record your voice as often as the exercise recommended?
    1. never or almost never  2. sometimes  3. often  4. always or almost always

12. Do you think that the practice exercises improved your ability to recognize and hear phonetic sounds?
    1. not at all  2. slightly  3. significantly  4. immensely

13. Do you think that the practice exercises improved your ability to pronounce the phonetic sounds?
    1. not at all  2. slightly  3. significantly  4. immensely

14. Do you think that the practice exercises improved your ability to speak French?
    1. not at all  2. slightly  3. significantly  4. immensely

15. What did you LIKE or DISLIKE about using the computerized phonetics activities?

________________________________________________________________________

________________________________________________________________________

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16. Do you have any suggestions for improving the computerized phonetics activities?

______________________________________________________________

APPENDIX B

Summary of Student’s Responses to Questions 1-14

<table>
<thead>
<tr>
<th>Question</th>
<th>Class MA (audiocassette)</th>
<th>Class MB (multimedia)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Operation of program</td>
<td></td>
<td></td>
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<tr>
<td>2. Working with phonetics activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Clarity of sound files</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Usefulness of feedback</td>
<td></td>
<td></td>
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<tr>
<td>5. User interface</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Usefulness of reviews</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Locating specific exercises</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Completion of assigned homework</td>
<td></td>
<td></td>
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<tr>
<td>9. Extra work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Number of times for each exercise</td>
<td></td>
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</tr>
<tr>
<td>11. Recording voice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Practice and ability to recognize sounds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Practice and ability to pronounce sounds</td>
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<td></td>
</tr>
<tr>
<td>14. Practice and ability to speak French</td>
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<tr>
<td>Mean</td>
<td>2.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Mean</td>
<td>2.9</td>
<td>3.3</td>
</tr>
<tr>
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<td>3.2</td>
<td>3.3</td>
</tr>
<tr>
<td>Mean</td>
<td>2.8</td>
<td>3.0</td>
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<tr>
<td>Mean</td>
<td>3.1</td>
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<tr>
<td>Mean</td>
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<td>3.1</td>
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<tr>
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<tr>
<td>Mean</td>
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</tr>
<tr>
<td>Mean</td>
<td>2.4</td>
<td>2.5</td>
</tr>
</tbody>
</table>
AUTHORS’ BIODATA

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